

establish any changes in the signal carriage requirements of cable television systems necessary to ensure cable carriage of such broadcast signals of local commercial television stations which have been changed to conform with such modified standards."⁸¹⁰ In the 1996 Act, Congress stated that no ancillary or supplementary broadcast service shall have must carry rights.⁸¹¹ In the legislative history clarifying this language, Congress also stated that it did not intend "to confer must carry status on advanced television or other video services offered on designated frequencies"⁸¹² and added that the "issue is to be the subject of a Commission proceeding under section 614(b)(4)(B) of the Communications Act."⁸¹³

251. In the context of adopting digital television standards, the Commission sought comment on relevant must carry rules or policies that might be needed both during the transition to DTV and once DTV has replaced the current analog system.⁸¹⁴ While the Commission has received comments on DTV signal carriage issues,⁸¹⁵ we intend to seek further comment.⁸¹⁶ Depending on the rules that the Commission may ultimately adopt, if any, cable and OVS operators subject to the must carry rules would be required to allocate a portion of their channel capacity to the carriage of DTV signals. Must carry obligations would, therefore, affect the types and variety of services that cable and OVS operators could offer their subscribers in competition with other MVPDs.

252. The carriage of local broadcast signals by any other MVPD is subject to retransmission consent from the broadcast station licensee.⁸¹⁷ In addition, under the Copyright Act, satellite providers

⁸¹⁰This provision is codified as Section 614(b)(4)(B) of the Communications Act, 47 U.S.C. § 543(b)(4)(B).

⁸¹¹47 U.S.C. § 336(b)(3) which was added to the Communications Act by Section 201 of the 1996 Act.

⁸¹²Conference Report at 161.

⁸¹³*Id.*

⁸¹⁴*Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fourth Notice of Proposed Rulemaking and Third Notice of Inquiry, 10 FCC Rcd 10540, 10552-10554 (1995).

⁸¹⁵We note that this request for comment was made while judicial review of the constitutionality of the must carry rules was pending. On March 31, 1997, the Supreme Court upheld the constitutionality of the must carry rules. *Turner Broadcasting v. FCC*, 117 S.Ct. 1174 (1997).

⁸¹⁶In the *Fifth Report and Order*, the Commission stated that "[i]n order to obtain a full and updated record on the applicability of the must carry and retransmission consent provisions in the digital context, particularly in light of the *Turner II* [the March 31, 1997, must-carry decision], we intend to issue a Notice to seek addition comment on these issues." See *Fifth Report and Order*, 12 FCC Rcd at 12853 ¶ 106.

⁸¹⁷47 U.S.C. § 325(b)(1); 47 C.F.R. § 76.54(a).

are prohibited from delivering any broadcast television network signals,⁸¹⁸ except in areas that are unserved by over-the-air signals.⁸¹⁹ Satellite providers appear to believe that local signals are an important part of any programming package. As noted in last year's report, in response to a request for a declaratory ruling from ASkyB that DBS operators may, under the satellite carrier compulsory license,⁸²⁰ retransmit the signals of network affiliated television broadcast stations within their local markets, the Copyright Office stated that "inclusion of locally retransmitted network stations is not subject to challenge by the Copyright Office."⁸²¹ Recent advertising by DBS entities emphasize that when combined with an indoor or outdoor antenna, a DBS dish can provide the same complement of local broadcast signals as cable television service.⁸²² Earlier this year, EchoStar announced plans to distribute local broadcast signals in 22 local markets serving 43% of all U.S. television households.⁸²³ To add local broadcast signals to its service, EchoStar launched a satellite in October 1997 and plans to launch another satellite in the Spring of 1998.⁸²⁴ Another satellite service, Capitol, has announced that it intends to offer DBS providers a package that includes all commercial television stations within a given station's designated market area.⁸²⁵ However, if DBS or other satellite providers were permitted to retransmit local broadcast television signals, carriage requirements could become an issue relevant for the assessment of competition among MVPDs.

I. Public Service Obligations for DBS

253. Section 335 of the Communications Act directed the Commission to initiate a rulemaking to impose public interest or other requirements for providing video programming on DBS service

⁸¹⁸ 17 U.S.C. § 119(a)(2).

⁸¹⁹ An "unserved household" is one that cannot receive a signal of Grade B intensity from a local network station through the use of a conventional rooftop antenna, and has not received the local network affiliate through a cable subscription within the previous 90 days. 17 U.S.C. § 119(d)(10).

⁸²⁰ 17 U.S.C. § 119.

⁸²¹ 1996 Report, 12 FCC Rcd at 4384-5 ¶ 48, citing Letter from Marilyn Kretsinger, Acting General Counsel, United States Copyright Office, to William S. Reyner, Jr., Esq., Hogan and Hartson (Aug. 15, 1996). The following congressional hearings have been held on the carriage of local broadcast signals by satellite providers: Senate Commerce Committee on April 10, 1997; House Commerce, Telecommunications, Trade and Consumer Protection Committee on October 30, 1997; House Judiciary, Courts and Intellectual Property Committee on October 30, 1997; and the Senate Judiciary Committee on November 12, 1997.

⁸²² See NASA Reply Comment at Exhibits A and B.

⁸²³ *Ergonomics Its Local or Bust*, Broadcasting & Cable, Oct. 13, 1997, at 22-28. In addition, as part of a proposed merger between Echostar and ASkyB that was not consummated, plans were announced for a DBS service that would provide some local broadcast service using spot beam technology. See, e.g., *Telecommunications Cable Television, Multichannel Metamorphosis II Digital Derby -- Rounding Turn #1*, Morgan Stanley, April 25, 1997, at 46.

⁸²⁴ *Id.*

⁸²⁵ See para. 58 *supra*.

providers.⁸²⁶ Section 335(a) states, among other things, that any regulations shall, at a minimum, apply the political broadcasting rules of the Communications Act to DBS providers, including the access to broadcast time requirement of Section 312(a)(7) and the use of facilities requirements of Section 315. This section also requires the Commission to examine the opportunities that the establishment of DBS service provides for the principle of localism and permits the Commission to impose additional public interest obligations on DBS providers if they are warranted. Section 335(b) mandates that DBS providers reserve between 4% and 7% of their channel capacity exclusively for noncommercial programming of an educational or informational nature and states that DBS providers shall meet this requirement by making channel capacity available to national educational programming suppliers, upon reasonable prices, terms and conditions.⁸²⁷

254. In March 1993, the Commission initiated a proceeding to implement Section 335.⁸²⁸ In September 1993, after the Commission had received comments in this proceeding, the U.S. District Court for the District of Columbia held that Section 335 was unconstitutional.⁸²⁹ This ruling effectively froze the proceeding. On August 30, 1996, the U.S. Court of Appeals for the District of Columbia Circuit reversed the District Court and held that Section 335 was constitutional.⁸³⁰ In January 1997, the Commission issued a Public Notice seeking to update and refresh the record in its proceeding implementing Section 335.⁸³¹

255. In response to the *Notice*, Alliance contends that the Commission should continue to protect the public interest and acknowledge the importance of the effective use of noncommercial channel capacity by DBS program providers as well as cable and OVS operators.⁸³² Alliance suggests that set-aside channels are "functionally equivalent" to the public, educational and governmental ("PEG") requirements on cable systems and therefore create a "level playing field" for all MVPDs. Furthermore, Alliance believes that the set-asides allow the DBS providers to fulfill their public interest obligations by

⁸²⁶Section 335 was added to the Communications Act by Section 25 of the 1992 Cable Act.
47 U.S.C. § 335.

⁸²⁷National educational programming suppliers are defined to include any qualified noncommercial educational television station, other public telecommunications entities, and public or private educational institutions. The Communications Act allows DBS providers to use unused channel capacity required to be reserved under the statute for any purpose pending the actual use of such channel capacity for noncommercial programming of an educational or informational nature.

⁸²⁸*Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Service Obligations*, MM Dkt. No. 93-25, Notice of Proposed Rulemaking ("*Public Service Obligations NPRM*"), 8 FCC Rcd 1589 (1993).

⁸²⁹*Daniels Cablevision, Inc. v. United States*, 835 F. Supp. 1 (D.D.C. 1993).

⁸³⁰*Time Warner Entertainment Co., L.P. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996).

⁸³¹*Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Service Obligations Comments Sought in DBS Public Interest Rulemaking*, MM Dkt. No. 93-25, Public Notice, 12 FCC Rcd 2251 (1997).

⁸³²Alliance Comments at 1.

offering a platform for the public to express its diversity of opinions, to provide a forum for educational and noncommercial information, and to serve the DBS industry's concern for competitive fairness.⁸³³ SBCA states that the DBS public service requirements will be the first rules designed for a national subscription service. Because the programming that will be used to satisfy this obligation must be attractive to a national subscription audience, SBCA contends that the rules must give DBS providers flexibility in designing their public service program packages.⁸³⁴ The Commission is developing a full record in response to the *Public Service Obligations NPRM*.⁸³⁵

J. Navigation Devices

256. Section 629 of the Communications Act requires the Commission, in consultation with appropriate industry standard-setting organizations, to adopt rules to assure the commercial availability of navigation devices from manufacturers, retailers and other vendors not affiliated with any MVPDs.⁸³⁶ Navigation devices are television set-top boxes, converter boxes, interactive communications equipment, and other equipment that a consumer uses to access video programming. The most common navigation devices in use today are the boxes that sit on top of television sets to access cable television which typically include a decrambler and tuner. Section 629 provides that any rules the Commission adopts may not jeopardize the security of video services offered or impede a video programming provider's legal rights to prevent theft of service.⁸³⁷ Multichannel video programming providers may continue to offer equipment as long as they do not subsidize the equipment prices with the charges for their services.⁸³⁸ The rules will lapse when the Commission determines that the markets are competitive and that elimination of such rules would serve the public interest.⁸³⁹

257. In February 1997, the Commission issued a *Notice of Proposed Rulemaking* to implement Section 629.⁸⁴⁰ In the *Navigation Notice*, the Commission sought comment on: (a) a tentative conclusion that Section 629 is broad in scope with respect to equipment and service providers; (b) a tentative conclusion that consumers have a "right to attach" enabling them to obtain equipment from retail outlets and to use it with their programming distributor's system; (c) a recognition that harm to distribution systems must be prevented; (d) a recognition of the need to protect the integrity of equipment designed to prevent unauthorized reception of service and of the continued validity of restrictions on the

⁸³³ *Id.* at 3, 4.

⁸³⁴ SBCA Comments at 13-14.

⁸³⁵ SBCA and Alliance have filed comments in response to the *Public Service Obligations NPRM*. See also SBCA and Alliance Comments in MM Docket No. 93-25.

⁸³⁶ 47 U.S.C. § 549. Section 629 was added to the Communications Act by Section 304 of the 1996 Act.

⁸³⁷ 47 U.S.C. § 549(b).

⁸³⁸ 47 U.S.C. § 549(a).

⁸³⁹ 47 U.S.C. § 549(e).

⁸⁴⁰ *Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigational Devices*, CS Docket No. 97-80, Notice of Proposed Rulemaking ("*Navigation Notice*"), 12 FCC Rcd 5639 (1997).

manufacture and sale of equipment intended to facilitate signal theft; (e) an examination of the feasibility of unbundling security functions from nonsecurity navigation equipment; and (f) an expressed desire to minimize government standard setting and to promote voluntary standard setting.

VI. VIDEO DESCRIPTION

258. The 1996 Act required the Commission to report to Congress on appropriate methods and schedules for phasing video description into the marketplace and other technical and legal issues related to the widespread deployment of video description.⁸⁴¹ In our *Video Accessibility Report* to Congress, we reported on the current status and possible future of video description service but concluded that the record before us was insufficient to assess appropriate methods and schedules for phasing in video description.⁸⁴² Thus, in the *Notice* on video competition, we requested information regarding video description that will permit us to provide Congress with additional findings. We specifically solicited data on: the number of broadcast television stations and MVPDs currently capable of transmitting and decoding a secondary audio programming ("SAP") signal and the costs of adding this capability; the cost of providing video description and possible funding mechanisms; whether the implementation of digital technologies will provide additional audio channels that will increase the feasibility of video description; specific methods and schedules for ensuring that video programming includes descriptions; technical and quality standards; any current efforts to coordinate new technology standard-setting and funding mechanisms; and other relevant legal and policy issues.⁸⁴³

259. Video description is an aural description of a program's key visual elements that is inserted during natural pauses in program dialogue.⁸⁴⁴ It generally describes actions that are not otherwise reflected in the dialogue, such as the movement of a person in a scene. Since consumers may find the additional narrative intrusive or distracting, programmers typically use technology designed to allow the viewer to choose whether or not to receive video description. The most widespread video description technology uses the SAP channel, a subcarrier that allows each video programming distributor to transmit a second soundtrack.⁸⁴⁵ Use of a SAP channel allows the viewer to choose between the primary

⁸⁴¹47 U.S.C. § 613(f). Specifically, Section 713(f) of the Communications Act states that the Commission must "commence an inquiry to examine the use of video descriptions on video programming in order to ensure the accessibility of video programming to persons with visual impairments, and report to Congress on its findings. The Commission's report shall assess appropriate methods and schedules for phasing video descriptions into the marketplace, technical and quality standards for video descriptions, a definition of programming for which video descriptions would apply, and other technical and legal issues that the Commission deems appropriate."

⁸⁴²*Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996, Video Programming Accessibility*, MM Docket No. 95-176, Report ("Video Accessibility Report"), 11 FCC Rcd 19214, 19270-19271 ¶¶ 138-142 (1996).

⁸⁴³*Notice*, 12 FCC Rcd at 7844-7845, ¶¶ 21-23.

⁸⁴⁴47 U.S.C. § 613(g) (video description means the insertion of audio narrated descriptions of a television program's key visual elements into natural pauses between the program's dialogue).

⁸⁴⁵Providing video description through the SAP channel is also referred to as "closed description." Jaclyn Packer and Corinne Kirchner, *Who's Watching: A Profile of the Blind and Visually Impaired Audience for Television and* (continued...)

soundtrack and an alternative soundtrack.⁸⁴⁶ Each SAP-equipped broadcast signal has only one SAP channel.

260. Video description using the SAP channel is only one of several methods that can be used to make video programming more accessible to persons with visual disabilities. Other methods include simultaneous transmission of the descriptive audio over a radio reading service⁸⁴⁷ and "open" video description, in which the descriptions are included in the primary soundtrack used by all viewers.⁸⁴⁸

261. WGBH reports that 144 PBS member stations have SAP capability, reaching more than 78% of American households,⁸⁴⁹ and that SAP-based audio services are available to 44% of all television households through SAP-equipped affiliates of at least one of the major commercial networks.⁸⁵⁰ WGBH reports that the cost of installing SAP capability for PBS stations which have added SAP capability ranges from \$5000 to \$25,000 depending on the size of the station.⁸⁵¹ RP reports that installation of SAP equipment would cost approximately \$50,000 per broadcast station.⁸⁵² RP also notes that cable operators would need to install equipment for each channel requiring SAP capability.⁸⁵³ NCTA notes that while many cable operators already carry SAP signals, SAP is being used to provide other services, including Spanish language audio.⁸⁵⁴ Cable operators that did not already have it would need to install SAP capable equipment at their headends in order to transmit the SAP channel to subscribers.⁸⁵⁵ WGBH estimates that

⁸⁴⁵(...continued)

Video ("Who's Watching"), American Foundation for the Blind, 1997, at vii. This study analyzes the needs and television viewing habits of persons with visual disabilities as well as their perceptions of television and video description. *Who's Watching* at v-vii.

⁸⁴⁶*Video Accessibility Report*, 11 FCC Rcd at 19253-19254 ¶ 94.

⁸⁴⁷ACB Comments Cover Letter.

⁸⁴⁸Kaleidoscope Comments at 6; *see also* National Coalition Comments at 15. Kaleidoscope estimates that its current programming, interstitials and commercials are 88% fully accessible and 12% partially accessible. Kaleidoscope Comments at 5. RP urges that future hardware be designed with persons with visual disabilities in mind, suggesting that all menus should "talk" and all access buttons for other audio channels be "brailled" or otherwise touch identifiable. RP Reply Comments at 3.

⁸⁴⁹WGBH Comments at 2; WGBH Reply Comments at 1.

⁸⁵⁰WGBH Reply Comments at 1.

⁸⁵¹WGBH Comments at 2.

⁸⁵²RP Comments at 7-8.

⁸⁵³*Id.* at 8; *see also* NCTA Comments at 48 (cable operators must incur costs to add SAP capability).

⁸⁵⁴NCTA Comments at 48.

⁸⁵⁵*Id.*

the cost for MVPDs to add SAP capability ranges from \$500 to \$5,000.⁸⁵⁶ Any programmer providing video description would also have to have SAP capable equipment to deliver the video description to cable headends and other MVPDs.⁸⁵⁷

262. According to the National Center for Health Statistics, 8.6 million persons in the U.S. have visual disabilities.⁸⁵⁸ Video description makes video services more accessible to these persons and allows the people with visual disabilities to more fully participate in the social and cultural benefits offered by video programming.⁸⁵⁹ ACB estimates that as many as 500,000 children with visual disabilities under the age of 18 may benefit from improved access to video service.⁸⁶⁰ Several commenters representing the people with visual disabilities assert that video description offers benefits beyond the visually disabled community, estimating that as many as 12 million people may benefit from video description, and that this figure may increase as the population ages.⁸⁶¹ However, MPAA suggests that video description is of limited utility regardless of the number of persons with visual disabilities, and that some people with congenital blindness find video description to be a nuisance.⁸⁶² Other commenters dispute this assertion, arguing that there is no evidence to support it and, even if true, video description can simply be turned off.⁸⁶³ RP argues that video description should not be subject to a cost-benefit analysis, asserting that such services are a civil right.⁸⁶⁴

263. We previously reported that video description costs range from \$1000 per program hour to \$10,000 for a full length feature film.⁸⁶⁵ NCTA states that the cost of video describing a full length

⁸⁵⁶WGBH Comments at 2.

⁸⁵⁷NCTA Comments at 48.

⁸⁵⁸*Video Accessibility Report*, 11 FCC Rcd at 19254 ¶ 96, citing National Center for Health Statistics, Current Estimates from the National Health Interview Survey, 1994, Series 10, No. 193, at 93, Table 62. Other estimates range between eight and 12 million persons. *Id.*

⁸⁵⁹*Who's Watching* at 23.

⁸⁶⁰ACB Comments at 3-4.

⁸⁶¹ACB Comments at 4 (persons with learning or cognitive disabilities may benefit from video description); RP Reply Comments at 2 (total number of potential beneficiaries approaches 30 million); Metropolitan Washington Ear Reply Comments at 4 (number of people with visual disabilities is closer to 12 million; millions more will benefit from video description, including relatives of the visually disabled, people learning English as a second language, and people with learning disabilities).

⁸⁶²MPAA Comments at 7.

⁸⁶³Metropolitan Washington Ear Reply Comments at 6; *see also* WGBH Reply Comments at 5. AFB also disputes the claim that video description is of limited utility, citing its own study of attitudes towards video description. *See* AFB Reply Comments at 2-3, citing *Who's Watching* at 23.

⁸⁶⁴RP Comments at 2.

⁸⁶⁵*Video Accessibility Report*, 11 FCC Rcd at 19258-19259 ¶¶ 106-109.

feature film can range as high as \$10,000.⁸⁶⁶ MPAA cites Turner Classic Movies' estimate of \$3,500 an hour, excluding the cost to synchronize and lay the video description onto the audio track, tape costs and edit room operator costs.⁸⁶⁷ WGBH states that the cost of video description has dropped from \$4,000 per hour to \$3,400 per hour,⁸⁶⁸ and that this cost amounts to as little as .26% of the budget of a single episode of a prime time program.⁸⁶⁹ Other commenters report that they have been able to produce accessible programming using in-house resources and alternative technologies. For example, Kaleidoscope asserts that the rates previously cited by the Commission are overstated due to reliance on outside contractors, noting that it is able to hold the cost of description down by in-house production.⁸⁷⁰ Kaleidoscope does not provide specific cost figures for video description noting that video description is incorporated into the production budget as part of the overall writing and editing figures, which it claims "do not amount to much more than a program without video description."⁸⁷¹ NTN states that it routinely provides video description for between \$1,000 and \$1,200 an hour, a cost that NTN claims is likely to be reduced through the use of digital technology.⁸⁷² The services provided by Kaleidoscope and NTN, however, use "open" video description.⁸⁷³

264. According to National Coalition, the market will not provide adequate incentives for video description, and increased availability of the service is dependent upon action by the Commission.⁸⁷⁴ Similarly, WGBH notes that while SAP-capable television receivers are increasingly available, the market has failed to respond with increased availability of video description as promised by the programming industry.⁸⁷⁵ According to WGBH, no commercial television programming has offered video description without public funding.⁸⁷⁶ WGBH also asserts that there are currently sufficient video description

⁸⁶⁶NCTA Comments at 47.

⁸⁶⁷MPAA Comments at 3.

⁸⁶⁸WGBH Comments at 2. *See also* RP Comments at 22 (cost of video description ranges from \$3,000 to \$5,000 per hour).

⁸⁶⁹WGBH Comments at 3. WGBH maintains that this small increase should be borne by broadcasters in return for their use of the public airways. *Id.*

⁸⁷⁰Kaleidoscope Comments at 6. NTN also maintains that estimates of the cost of video description have been dramatically overestimated. NTN Reply Comments at 1-2.

⁸⁷¹Kaleidoscope Comments at 5-6.

⁸⁷²NTN Reply Comments at 1-2. NTN notes that it has achieved this rate as a profitable, commercial tax-paying entity.

⁸⁷³Kaleidoscope Comments at 6; NTN Comments Attachment. Kaleidoscope also notes that "open" video description is significantly less complex and allows for additional savings in distribution.

⁸⁷⁴Metropolitan Washington Ear Reply Comments at 4.

⁸⁷⁵WGBH Reply Comments at 3.

⁸⁷⁶*Id.*

resources in existence to begin a phase-in schedule.⁸⁷⁷ RP asserts that video description represents a virtually untapped potential market for both video producers and equipment providers. RP claims that video description represents between \$5 billion and \$21 billion in potential revenue for the cable industry alone.⁸⁷⁸

265. In the *Video Accessibility Report*, the Commission found that any schedule for expanding the use of video description depends, in part, on implementation of advanced digital television, which may make the distribution of additional audio channels feasible and facilitate implementation of video description.⁸⁷⁹ Commenters recognize that, in the current analog environment, SAP channel capacity is a limited resource and video description must compete with other possible uses of the SAP channel.⁸⁸⁰ The video programming industry notes that it has developed a profitable niche market by providing second language audio to serve the Spanish-speaking community.⁸⁸¹ We previously concluded that funding will also affect any schedule for the widespread use of video description, as it appears that advertising support alone is unlikely to be sufficient to fund this service given the costs involved.⁸⁸² Funding remains a major concern. For example, MPAA notes that currently available sources of public funding for video description are becoming increasingly scarce.⁸⁸³ Other commenters suggest that public funding should not be the criteria for additional Commission action, because such funding was only intended to "prime the pump" by demonstrating the viability of the service and allowing a market to develop.⁸⁸⁴

266. With respect to specific methods and schedules for video description, National Coalition proposes a seven-year implementation schedule for video description of prime time and children's programming, comparing this phase in period to the eight years schedule for closed captioning of prime time television.⁸⁸⁵ National Coalition places special emphasis on describing prime time and children's programming. Under this proposal, broadcasters would be required to provide at least four hours of prime

⁸⁷⁷*Id.* at 4.

⁸⁷⁸RP Reply Comments at 2.

⁸⁷⁹*Video Accessibility Report*, 11 FCC Rcd at 19270 ¶ 139.

⁸⁸⁰*See, e.g.*, AFB Reply Comments at 3; Metropolitan Washington Ear Reply Comments at 4-5; HBO Reply Comments at 2.

⁸⁸¹*See, e.g.*, MPAA Comments at 3; HBO Reply Comments at 2.

⁸⁸²*Video Accessibility Report* at 19270 ¶ 140. We also reported that the primary source of funding for video description has been grants administered by PBS, National Endowment for the Arts, National Science Foundation and especially the Department of Education ("DOE"). At the time of the *Video Accessibility Report*, DOE allocated \$1.5 million for video description, or about \$0.19 per American with visual disability. *Id.* at 19259 ¶ 110.

⁸⁸³MPAA Comments at 6. *See also* HBO Reply Comments at 7.

⁸⁸⁴*See, e.g.*, WGBH Comments at 3.

⁸⁸⁵National Coalition Comments at 10-11.

time video description per week beginning in the fall of 1998,⁸⁸⁶ and another three hours per week would be added each year until all 22 hours of prime time were described.⁸⁸⁷ National Coalition further proposes that within two years television broadcasters be required to provide video description for the three hours per week of children's educational programming required by the children's educational television programming requirements.⁸⁸⁸ National Coalition also recommends that the Commission defer establishing implementation schedules for other types of programming to allow for the development of video description resources and vendors. For instance, National Coalition recognizes the special demands of describing live events, including news and sports. National Coalition also recognizes that in some cases programming such as sporting events are simultaneously carried on radio which may function as an effective substitute for a video described audio track.⁸⁸⁹ In developing video description requirements for programming other than prime time and children's programming, National Coalition recommends the Commission reserve sufficient regulatory flexibility to accommodate programming whose nature or financing does not lend itself to video description.⁸⁹⁰ National Coalition also suggests that the Commission develop an undue burden exemption similar to that developed for closed captioning. It further recommends that the Commission require public safety announcements to include an aural tone to alert the blind to turn on a radio or use the SAP channel for an aural message.⁸⁹¹

267. In the *Video Accessibility Report*, the Commission noted that copyright liability poses a significant hurdle to a widely applicable video description requirement.⁸⁹² NCTA and other video programming industry commenters continue to cite potential copyright issues as an obstacle to more widespread deployment of video description.⁸⁹³ These commenters argue that video description requires the addition of original narration, thus creating a derivative work and copyright liability. Entities currently creating video description indicate that they have had no difficulty with copyright issues. WGBH, for example, claims that copyright holders have been quite willing to permit video description of their works because they continue to hold the copyright to the described version of the work, and the description adds

⁸⁸⁶*Id.* at 11.

⁸⁸⁷*Id.*

⁸⁸⁸*Id.* at 10-11. The children's educational programming requirements only apply to broadcast licensees. 47 C.F.R. § 73.661.

⁸⁸⁹*Id.* at 11.

⁸⁹⁰*Id.* at 12.

⁸⁹¹*Id.*

⁸⁹²*Video Accessibility Report*, 11 FCC Rcd at 19270-71 ¶ 141.

⁸⁹³NCTA Comments at 48; Lifetime Reply Comments at 7; MPAA Comments at 6-7. *See also* HBO Reply Comments at 6 (copyright liability posed by video description creates an additional expense that is difficult to predict and is largely ignored by advocates of video description).

value to the original work.⁸⁹⁴ Kaleidoscope provides video description for originally produced material or material already in the public domain in order to avoid any potential copyright problems.⁸⁹⁵ Kaleidoscope also suggests that if the Commission adopts mandatory video description requirements, copyright liability could be waived for a video programming provider if the provider could demonstrate that it had made good faith efforts to obtain the rights to video describe a particular product.⁸⁹⁶

268. Based on the information received in response to this and earlier requests for information, it is certain that "closed" video description is feasible. The necessary technology exists, and, as noted by commenters, some video description is already being provided, both on cable and broadcast television.⁸⁹⁷ Many televisions are equipped with SAP capability, and the number continues to increase. With respect to digital television, we note that the provision of video description is entirely consistent with our regulations regarding digital television. As we previously stated, the DTV standard can accommodate video description, even though there is no data capacity reserved exclusively for video description.⁸⁹⁸ In that order, we found that the DTV standard provides a method of including video descriptions, and stated that, if, in the future, video description capability were to be required, we expect the Advanced Television Systems Committee ("ATSC") to consider appropriate changes to the ATSC DTV standard and that we would consider appropriate changes to our rules.⁸⁹⁹ In the digital environment, video description will not have to compete with foreign language audio for use of one SAP channel.

269. On the other hand, the costs of providing video description are substantial. Video description can cost \$3,400 per program hour.⁹⁰⁰ In addition, each programming network must have SAP capable equipment in order to deliver the video description. MVPDs may need to add SAP capability to the headend equipment for each channel used to provide video description, which may cost from \$500 to \$5,000.⁹⁰¹ A broadcaster wishing to produce programming that will have video description needs additional equipment. WGBH reports that for the public television stations which have added SAP capability, upgrading has cost between \$5,000 and \$25,000. The costs of providing video description are still quite high, significantly higher than those associated with closed captioning.

⁸⁹⁴WGBH Comments at 3; WGBH Reply Comments at 4-5. *See also* National Coalition Comments at 13; AFB Comments at 5 (the desire to obtain carriage will resolve copyright disputes if the Commission were to mandate video description).

⁸⁹⁵Kaleidoscope Comments at 9.

⁸⁹⁶*Id.*

⁸⁹⁷*See, e.g.,* MPAA Comments at 2; NCTA Comments at 47; WGBH Comments at 1.

⁸⁹⁸*Fourth Report and Order*, 11 FCC Rcd at 17795 ¶ 58.

⁸⁹⁹*Id.* The audio system of the DTV standard allows data to be specifically identified as an associated audio service for persons with visual disabilities. In addition, the DTV standard allows a separate complete audio service that includes video description. *Id.*

⁹⁰⁰WGBH Comments at 2.

⁹⁰¹*Id.*

270. There is evidence that video description is a valuable addition to television programming for persons with visual disabilities and that it helps the viewer experience the totality of the programming. The research described in *Who's Watching* demonstrates that video description enables families to watch television together, and enhances their enjoyment. Continued public funding could foster the development of video description services to the point where widespread implementation of video description could become feasible, and could ultimately create a commercial market for video description independent of public funding. Closed captioning has been in existence longer than video description, and has had the benefit of a long history of government support, which has encouraged its growth and widespread implementation. The advances of the digital age, combined with continued federal funding, could allow the development and expansion of video description to occur more quickly than occurred in the case of closed captioning.

271. In response to Congress' request that we report on appropriate methods and schedules for phasing video descriptions into the marketplace,⁹⁰² any requirements for video description should begin with only the largest broadcast stations and programming networks that are better able to bear the costs involved. The appropriate timeframe for any requirements might take into account DTV penetration and availability. For example, a minimal amount of video description could be required to be provided by the larger broadcast stations in the larger markets, and by the larger video programming networks. In any event, any requirement should have an exemption for smaller broadcasters, MVPDs, and programming networks. With respect to Congress' request for a definition of programming for which video descriptions would apply,⁹⁰³ we believe that priority should be given to programming where there is significant action not apparent to persons with visual disabilities. We note that National Coalition recommends beginning with prime time television and also emphasizes video description for children's educational programming.⁹⁰⁴ In *Who's Watching*, survey results showed that dramas or mysteries, nature or science, news and information, comedies, and music programs or videos topped the lists of television programs that respondents would like to have described.⁹⁰⁵ Whether funded through public sources or through a more direct regulatory requirement, a period of trial and experimentation would be beneficial so that more specific information would be available as to the types of programming that would most benefit from description, the costs of providing video descriptions, and other matters.

VII. ADMINISTRATIVE MATTERS

272. This 1997 Report is issued pursuant to authority contained in Sections 4(i), 4(j), 403, and 628(g) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), 154(j), 403, and 548(g).

⁹⁰²47 U.S.C. § 613(f).

⁹⁰³*Id.*

⁹⁰⁴We note that some programming services, most notably smaller cable programming networks, have very limited viewership, even during prime time. We also note that the children's programming requirements only apply to broadcast licensees.

⁹⁰⁵*Who's Watching* at 26.

273. It is ORDERED that the Office of Legislative and Intergovernmental Affairs shall send copies of this *1997 Report* to the appropriate committees and subcommittees of the United States House of Representatives and the United States Senate.

274. It is FURTHER ORDERED that the proceeding in CS Docket No. 97-141 IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

A handwritten signature in cursive script, reading "Magalie Roman Salas".

Magalie Roman Salas
Secretary

APPENDIX A

List of CommentersComments

Alliance for Community Media ("Alliance")
American Council of the Blind ("ACB")
Ameritech New Media, Inc. ("Ameritech")
American Public Power Association ("APPA")
Bell Atlantic and NYNEX ("Bell Atlantic")
BellSouth Corporation, BellSouth Interactive Media Services, Inc. and BellSouth Wireless Cable, Inc.
("BellSouth")
Cablevision Systems Corporation ("Cablevision")
Clay Electric Cooperative, Inc. ("Clay Electric")
DIRECTV, Inc. ("DIRECTV")
Echostar Communications Corporation ("Echostar")
Florida Electric Cooperatives Association, Inc. ("Florida Electric")
General Instrument Corporation ("GI")
Home Box Office ("HBO")
Independent Cable & Telecommunications Association ("ICTA")
Jackson Electric Membership Corporation ("Jackson Electric")
Kaleidoscope Television ("Kaleidoscope")
Little Ocmulgee Electric Membership Corporation ("Little Ocmulgee")
Minnesota Rural Electric Association ("Minnesota Electric")
Montana Electric Cooperatives' Association ("Montana Electric")
Motion Picture Association of America, Inc. ("MPAA")
National Cable Television Association ("NCTA")
National Coalition of Blind and Visually Impaired Persons for Increased Video Access
("National Coalition")
National Rural Electric Cooperative Association ("NRECA")
National Rural Telecommunications Cooperative ("NRTC")
Nebraska Rural Electric Association ("NREA")
North Carolina Cable Telecommunications Association ("NCCTA")
OpTel, Inc. ("Optel")
Primetime 24 Joint Venture ("Primetime24")
RP International & TheatreVision ("RP")
Satellite Broadcasting and Communications Association of America ("SBCA")
Small Cable Business Association ("SCBA")
United States Telephone Association ("USTA")
US WEST, INC. ("US West")
UTC (formerly Utilities Telecommunications Council)
WECA Division of the Wisconsin Federation of Cooperatives ("WECA")
WGBH Educational Foundation ("WGBH")
Wireless Cable Association International, Inc. ("WCAI")

Reply Comments

American Foundation for the Blind ("AFB")
American Public Power Association ("APPA")
Ameritech New Media, Inc. ("Ameritech")
Bell Atlantic and NYNEX ("Bell Atlantic")
BellSouth Corporation, BellSouth Interactive Media Services, Inc. and BellSouth Wireless Cable, Inc.
("BellSouth")
CBS Inc. ("CBS")
Echostar Communications Corporation ("Echostar")
ESPN, Inc. ("ESPN")
GTE Service Corporation ("GTE")
Home Box Office ("HBO")
Lifetime Television ("Lifetime")
Metropolitan Washington Ear, The National Television Access Coalition ("Metropolitan
Washington Ear")
Narrative Television Network ("NTN")
National Association of Broadcasters ("NAB")
National Cable Television Association ("NCTA")
National Rural Electric Cooperative Association ("NRECA")
National Rural Telecommunications Cooperative ("NRTC")
Network Affiliated Stations Alliance ("NASA")
Rainbow Media Holdings, Inc. ("Rainbow")
RCN Telecom Services, Inc. ("RCN")
RP International & TheatreVision ("RP")
Small Cable Business Association ("SCBA")
United States Telephone Association ("USTA")
US WEST, INC. ("US West")
UTC (formerly Utilities Telecommunications Council)
Viacom Inc. ("Viacom")
WGBH Educational Foundation ("WGBH")
Wireless Cable Association International, Inc ("WCAI")

APPENDIX B

TABLE B-1
Cable Television Industry Growth: 1990 - June 1997
(in millions)

Year	U.S. Television Households ("TH")		Homes Passed ("HP")		Basic Cable Subscribers ("Subs")		TV Households Passed by Cable (HP/TH)	TV Households Subscribing (Subs/TH)	U.S. Penetration (Subs/HP)
	Total	Change From Previous Year	Total	Change From Previous Year	Total	Change From Previous Year			
1990	93.1	1.1%	86.0	3.9%	51.7	4.9%	92.4%	55.5%	60.1%
1991	92.1 (*)	-1.1%	88.4	2.8%	53.4	3.3%	96.0%	58.0%	60.4%
1992	93.1	1.1%	89.7	1.5%	55.2	3.4%	96.3%	59.3%	61.5%
1993	94.2	1.2%	90.6	1.0%	57.2	3.6%	96.2%	60.7%	63.1%
1994	95.4	1.3%	91.6	1.1%	59.7	4.4%	96.0%	62.6%	65.2%
1995	95.9	0.5%	92.7	1.2%	62.1	4.0%	96.7%	64.8%	67.0%
1996	97.0	1.1%	93.7	1.1%	63.5	2.3%	96.6%	65.5%	67.8%
Jan-Jun 97(e)	97.0	0.0%	94.2	0.5%	64.2	1.1%	97.1%	66.2%	68.2%

(*) Revised penetration figure based on 1990 Census.

(e) Estimated by Paul Kagan Associates.

Sources:

- **U.S. Television Households: 1990 to 1994** - A.C. Nielsen Co. as of January of the following year. Taken from Veronis, Suhler & Associates, *Subscribers to Subscription Video Services*, The Veronis, Suhler & Associates Communications Industry Forecast, August 1996, at 128. **1995** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, The Cable TV Financial Databook, 1996, at 11. **1995 Revised** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May, 1997, at 9. **1996** - Nielsen Media Research as cited by Broadcasting & Cable, Jan. 13, 1997 at 118. **1997** - Nielsen Media Research as cited in *The TV Column*, Washington Post, Aug. 26, 1997 at E4.
- **Homes Passed and Basic Cable Subscribers: 1990 to 1994** - Paul Kagan Assoc., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5; **1995 to 1997** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May, 1997, at 9.

TABLE B-2
Premium Cable Services: 1990 - 1997
(in millions)

Year-end	Premium Cable Service Subscribers		Premium Units	
	Year-end Total	Change From Previous Year	Year-end Total	Change From Previous Year
1990	23.9	1.3%	41.5	1.0%
1991	24.0	0.4%	43.1	3.9%
1992	24.7	2.9%	44.4	3.0%
1993	26.4	6.9%	46.0	3.6%
1994	28.1	6.4%	51.1	11.1%
1995	29.8	6.0%	51.6 (*)	1.0%
1996	31.5	5.7%	54.5	5.6%
1997	N/A	-	57.2 (e)	5.0%

(*) Revised Data - updated by the source.

(e) Year-end estimated as of May 20, 1997, by Paul Kagan Associates.

Sources:

- Premium Cable Service Subscribers: 1990 to 1994 - Paul Kagan Assoc., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5. 1995 to 1996 - Paul Kagan Assoc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, Feb. 24, 1997, at 10.
- Premium Units: Premium Units refers to the number of premium services subscribed to by a home, whereas Premium Cable Services Subscribers refers to the total number of homes subscribing to one or more premium services. 1990 to 1995 - Paul Kagan Assoc., Inc., *Pay TV Subscriber History*, The Cable TV Financial Databook, July 1996, at 8. 1996 to 1997 - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May, 1997, at 9.

TABLE B-3
Channel Capacity of Cable Systems: October 1995 - October 1997

Channel Capacity	1995(*)		1996(*)		95-96 Percent Change	1997(*)		96-97 Percent Change
	Number of Systems	Percent of Systems	Number of Systems	Percent of Systems		Number of Systems	Percent of Systems	
34 and +	1,558	15.6%	1,724	16.4%	10.7%	1,886	19.0%	9.4%
30 to 53	6,376	63.8%	6,410	60.8%	0.5%	6,374	64.1%	-0.6%
20 to 29	1,104	11.0%	1,607	15.3%	45.6%	971	9.8%	-39.6%
13 to 19	353	3.5%	337	3.2%	-4.5%	309	3.1%	-8.3%
6 to 12	588	5.9%	456	4.3%	-22.4%	399	4.0%	-12.5%
5 or less	14	0.1%	12	0.1%	-14.3%	10	0.1%	-16.7%
Not Avail.	1,133	-	937	-	-17.3%	889	-	-5.1%
Total	11,126	-	11,483	-	3.2%	10,838	-	-5.6%
Sys. w/30+ channels	7,934	79.4%	8,134	77.1%	2.5%	8,260	83.9%	1.5%
Sys. w/less than 30 channels	2,059	20.6%	2,412	22.9%	17.1%	1,689	17.0%	-30.0%

(*) Figures are as of October 1st, 1995/1996/1997. "Percentage of Systems" calculation excludes "not available" data.

Sources:

- **1995** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 64, 1996 Edition, at I-81.
- **1996** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 65, 1997 Edition, at I-81.
- **1997** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 66, 1998 Edition. (to be released).

TABLE B-4
Channel Capacity for Subscribers: October 1995 - October 1997
(in millions)

Channel Capacity	1995(*)		1996(*)		95-96 Percent Change	1997(*)		96-97 Percent Change
	Number of Subscribers	Percent of Subscribers	Number of Subscribers	Percent of Subscribers		Number of Subscribers	Percent of Subscribers	
54 and +	27.69	47.9%	33.58	55.3%	21.3%	35.73	58.4%	6.4%
30 to 53	28.56	49.4%	26.06	42.9%	-8.8%	24.35	39.8%	-6.6%
20 to 29	1.20	2.1%	0.81	1.3%	-32.5%	0.85	1.4%	4.9%
13 to 19	0.13	0.2%	0.10	0.2%	-23.1%	0.09	0.1%	-10.0%
6 to 12	0.22	0.4%	0.19	0.3%	-13.6%	0.19	0.3%	0.0%
5 or less	0.00	0.0%	0.00	0.0%	0.0%	0.00	0.0%	0.0%
Not Avail.	1.50	-	0.09	-	-36.0%	1.22	-	27.1%
Total	59.30	-	61.7	-	4.0%	62.43	-	1.2%
Sys. w/30+ channels	56.3	97.3%	59.6	98.2%	6.0%	60.1	98.2%	0.7%
Sys. w/less than 30	1.6	2.7%	1.1	1.8%	-29.0%	1.13	1.8%	2.7%

(*) Figures are as of October 1st, 1995/1996/1997. "Percentage of Systems" calculation excludes "not available" data.

Sources:

- **1995** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 64, 1996 Edition, at I-81.
- **1996** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 65, 1997 Edition, at I-81.
- **1997** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 66, 1998 Edition. (to be released).

TABLE B-5
Growth By Network Type: 1994 - 1996

Network Type	1994		1995		94-95 Change	1996		95-96 Change
	Number of Networks	Percent of Networks	Number of Networks	Percent of Networks		Number of Networks	Percent of Networks	
Basic/No-Chrg	94	73.4%	104(*)	74.8%	10.6 ^(*)	126	77.8%	21.2%
Premium	20	15.6%	21	15.1%	5.0%	18	11.1%	-14.3%
Pay Per View	8	6.3%	8	5.8%	0.0%	7	4.3%	-12.5%
Combination	6	4.7%	6	4.3%	0.0%	11	6.8%	83.3%
Total	128		139		8.6% ^(*)	162		16.5%

(*) Revised Data - updated by the source.

Source:

- **1994 - 1996:** National Cable Television Association, *National Cable Video Networks By Type of Service: 1976 - 1996*, Cable Television Developments, Spring 1997, at 6.

TABLE B-6
Cable Industry Revenue and Cash Flow^(*): 1993 - 1997

	1993	1994		1995(**)		1996		1997
	Total	Total	% Change From Previous Year	Total	% Change From Previous Year	Total	% Change From Previous Year	Estimated Year-End Total
Average Number of Basic Subscribers (mil.)	56.2	58.5	4.1%	60.9	4.1%	62.8	3.1%	64.1
Regulated Tiers	\$15,169	\$15,164	0.0%	\$16,860	11.2%	\$18,395	9.1%	\$20,008
Pay Tiers	\$4,625	\$4,522	-2.2%	\$4,775	5.6%	\$4,966	4.0%	\$5,153
Advertising	\$984	\$1,077	9.5%	\$1,433	33.1%	\$1,662	16.0%	\$1,912
Pay-Per-View	\$452	\$484	7.1%	\$535	10.5%	\$647	20.9%	\$815
Home Shopping	\$113	\$127	12.4%	\$144	13.4%	\$145	0.7%	\$152
Miscellaneous+Installations	\$1,123	\$1,412	25.7%	\$1,151	-18.5%	\$1,305	13.4%	\$1,774
Total Revenue (mil.)	\$22,466	\$22,786	1.4%	\$24,898	9.3%	\$27,120	8.9%	\$29,814
Revenue Per Avg. Sub	\$399.75	\$389.50	-2.6%	\$408.83	5.0%	\$431.85	5.6%	\$465.12
Cash Flow (mil.)	\$10,100	\$9,936	-1.6%	\$11,161	12.3%	\$12,177	9.1%	N/A
Cash Flow per Sub	\$179.72	\$169.85	-5.5%	\$183.27	7.9%	\$193.90	5.8%	-
Cash Flow/Total Revenue	45.0%	43.6%	-3.1%	44.8%	2.8%	44.9%	0.2%	N/A

Note: All figures are calculated using average number of subscribers (first row).

(*) Earnings Before Interest, Taxes, Depreciation, and Amortization ("EBITDA"), commonly referred to as "cash flow, from operations" is often used to value the operations of a communications firm without regard to the firm's capital structure. Cash flow from operations is the net result of cash inflows from operations (revenue) and cash outflows from operations (expenses), thus ignoring non-cash charges to net income such as depreciation and amortization. Cash flow from operations indicates a firm's operation's ability to meet the firm's net finance and investment obligations.

(**) Revised Data - updated by the source

Sources:

- **1993 and 1994** - Paul Kagan Assoc., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5 and Paul Kagan Assoc., Inc., *Estimated Capital Flows In Cable TV*, The Cable TV Financial Databook, July 1995, at 92.
- **1995 to 1997** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May 20, 1997, at 9; Paul Kagan Assoc., Inc., "Cable TV's Growth Chart," Cable TV Investor, March 27, 1997 at 4.

TABLES 7A & 7B
Annual Cable Industry Revenue, Cash Flow, and Subscriber Information
Year-end 1995 - Year-end 1996

The following tables detail the data and the calculations used in the Commission's estimates of the cable industry's annual revenue and cash flow.

To calculate the industry-wide estimates of revenue, we first calculate an average revenue per subscriber figure for each year by dividing the total revenue of the companies in the group by the average subscribers of these companies for that year. Second, we multiply this average revenue per subscriber figure by an estimate of the industry's average subscribership for the year. The same methodology was followed to calculate the industry-wide estimates of cash flow.

The estimates in this *1997 Report* differ from those in the *1996 Report* because secondary sources were used in many cases to obtain data, and only the firms with subscribership of 500,000 or more were analyzed.

Sources:

- 1995: Unless otherwise noted, the data used in these tables are from the companies' public filings with the Securities and Exchange Commission, their press releases, or discussions with company personnel. Some of the data taken from these sources have been adjusted to take into account acquisitions which occurred during each year. These adjustments are described in the notes for each table. Due to lack of data, adjustments have not been made for all acquisitions.
- 1996: Data collected from numerous sources. See footnotes.
- The year-end industry subscriber estimates for 1995 and 1996 were taken from Table B-1 of this Appendix.

General Notes:

- Unless otherwise noted, all "Year-End Subscribers" numbers are as of December 31 of the year in question. All "Average Subscribers," "Cable Revenue," and "Cable Cash Flow" numbers are for the fiscal year ending December 31 of the year in question.
- Unless otherwise noted, all data are for the companies' consolidated, domestic cable operations. Some data have been adjusted to remove subscribers, revenue, and cash flow from other sources (e.g. satellite operations.)
- Each company's "Average Subscribers" figure is from one of the three following sources: a company reported figure, an average of quarterly subscribership information, or the mid-point of two year-end subscriber numbers.

- In each of the tables, the company referred to as "Enstar Partnerships" represents the combined results of ten separate partnerships associated with Falcon Holding Group. The partnerships are: Enstar Income Growth Program Five-A, Enstar Income Growth Program Five-B, Enstar Income Growth Program Six-A, Enstar Income Growth Program Six-B, Enstar Income Program 1984-1, Enstar Income Program II-1, Enstar Income Program II-2, Enstar IV-1, Enstar IV-2, Enstar IV-3.
- In each of the tables, the company referred to as "Jones Partnerships" represents the combined results of 21 separate partnerships associated with Jones Intercable. The partnerships are: Cable TV Fund 11-A Ltd, Cable TV Fund 11-B Ltd, Cable TV Fund 11-C Ltd, Cable TV Fund 11-D Ltd, Cable TV Fund 12-A Ltd, Cable TV Fund 12-B Ltd, Cable TV Fund 12-C Ltd, Cable TV Fund 12-D Ltd, Cable TV Fund 14-A Ltd, Cable TV Fund 14-B Ltd, Cable TV Fund 15-A Ltd, IDS/Jones Growth Partners 87-A Ltd, IDS/Jones Growth Partners 89-B Ltd, IDS/Jones Growth Partners II LP, Jones Cable Income Fund 1-A Ltd, Jones Cable Income Fund 1-B Ltd, Jones Cable Income Fund 1-C Ltd, Jones Growth Partners LP, Jones Growth Partners II LP, Jones Intercable Investors LP, Jones Spacelink Income Growth Fund 1-A.
- In the table for 1995, the company referred to as "Northland Partnerships" represents the combined results of 5 separate partnerships associated with Northland Communications Corporation. The partnerships are: Northland Cable Properties Four LTD Partnership, Northland Cable Properties Five LTD Partnership, Northland Cable Properties Six LTD Partnership, Northland Cable Properties Seven LTD Partnership, and Northland Cable Properties Eight LTD Partnership.

TABLE 7A
1995 Cable Industry Revenue and Cash Flow Calculations

Company	Year-End Subscribers	Average Subscribers	Annual Cable Revenue (mil.)	Monthly Cable Revenue Per Subscriber	Annual Cable Cash Flow (mil.)	Annual Cable Cash Flow Per Subscriber	Average Cash Flow Margin
TCI Communications, Inc.	12,494,000	12,183,000	\$4,936,000	\$33.76	\$2,081,800	\$170.88	42.2%
Time Warner	9,769,000	9,545,500	\$3,743,440	\$32.68	\$1,549,000	\$162.28	41.4%
Continental Cablevision	4,066,795	4,002,805	\$1,695,263	\$35.29	\$705,272	\$176.19	41.6%
Comcast	3,407,000	3,357,000	\$1,454,932	\$36.12	\$718,455	\$214.02	49.4%
Cox Communications	3,248,759	3,215,878	\$1,287,016	\$33.35	\$510,998	\$158.90	39.7%
Cablevision Systems	2,061,200	1,904,425	\$905,155	\$39.61	\$392,416	\$206.05	43.4%
Viacom	1,179,500	1,165,000	\$444,400	\$31.79	\$182,900	\$157.00	41.2%
Marcus Cable	1,154,718	1,110,352	\$325,414	\$24.42	\$173,597	\$156.34	53.3%
Century Communications	1,100,000	1,046,000	\$349,641	\$27.86	\$177,210	\$169.42	50.7%
Cablevision Industries	1,041,768	1,028,942	\$423,212	\$34.28	\$203,133	\$197.42	48.0%
Adelphia Communications	1,002,760	993,284	\$390,413	\$32.75	\$204,145	\$205.53	52.3%
Jones Partnerships	902,345	904,834	\$391,772	\$36.08	\$122,852	\$135.77	31.4%
EW Scripps	766,400	756,850	\$279,482	\$30.77	\$118,074	\$156.01	42.2%
Lenfest Communications	596,366	586,872	\$232,155	\$32.97	\$115,361	\$196.57	49.7%
TCA Cable TV, Inc.	574,473	529,512	\$200,867	\$31.61	\$99,982	\$188.82	49.8%
Intermedia Partners IV	554,000	539,100	\$211,800	\$32.74	\$87,000	\$161.38	41.1%
Media One (US West)	527,000	513,500	\$215,000	\$34.89	\$100,000	\$194.74	46.5%
Washington Post Co.	518,000	508,000	\$194,142	\$31.85	\$81,988	\$161.39	42.2%
Multimedia Inc (Gannett)	458,000	452,250	\$174,941	\$32.24	\$89,703	\$198.35	51.3%
Jones Intercable, Inc.	439,400	374,350	\$135,350	\$30.13	\$49,428	\$132.04	36.5%
Falcon Holding Group	419,288	379,985	\$142,608	\$31.27	\$95,442	\$251.17	66.9%
C TEC Corp	333,920	286,061	\$127,079	\$37.02	\$57,858	\$202.26	45.5%
Charter Comm. SE, LP	249,106	245,615	\$88,624	\$30.07	\$42,842	\$174.43	48.3%
Bresnan Communications	209,459	206,048	\$70,389	\$28.47	\$28,555	\$138.58	40.6%
Garden State Cablevision	200,086	198,026	\$92,815	\$39.06	\$51,176	\$258.43	55.1%
Insight Communications	163,923	159,293	\$57,108	\$29.88	\$28,115	\$176.50	49.2%
Galaxy Telecom	162,400	161,663	\$57,459	\$29.62	\$22,800	\$141.03	39.7%
Falcon Cable Systems	135,475	134,362	\$52,935	\$32.83	\$23,915	\$177.99	45.2%
Rifkin Acquisition Partners	132,271	128,165	\$50,208	\$32.65	\$23,429	\$182.80	46.7%
Northland Partnerships	102,766	99,061	\$35,181	\$29.60	\$14,579	\$147.17	41.4%
Helicon Group	87,632	86,615	\$35,225	\$33.89	\$17,141	\$197.90	48.7%
Enstar Partnerships	85,342	84,780	\$31,405	\$30.87	\$13,022	\$153.60	41.5%
Falcon Classic Cable	47,957	47,435	\$18,363	\$32.26	\$8,263	\$174.20	45.0%
Cencom Inc. Cab. Prtnrs II	44,500	43,750	\$17,046	\$32.47	\$7,245	\$165.59	42.5%
Mercom, Inc.	38,853	38,089	\$13,939	\$30.50	\$5,191	\$136.29	37.2%
Total For Group	48,274,462	47,016,397	\$18,880,779	\$33.46	\$8,202,886	\$174.47	43.4%
Total For Industry	62,100,000	60,900,000	\$24,456,137	\$33.46	\$10,625,139	\$174.47	43.4%
Percent Change From Previous Year	4.02%	4.19%	5.97%	1.71%	5.75%	1.50%	-0.21%

1995 Notes:**- TCI -**

On January 26, 1995, TCI acquired Telecable. TCI's results have been adjusted as though the transaction took place on January 1, 1995. This increased TCI's revenue by \$25 million and its cash flow by \$10.8 million (calculated by applying Telecable's 1994 cash flow margin to the \$25 million.) TCI's average subscribership was calculated assuming that this acquisition occurred at the beginning of the year.

TCI's revenue and cash flow were adjusted for the removal of its satellite operations. This reduced its revenue by \$207 million and its cash flow by \$10 million. TCI's cash flow was increased by \$38 million to account for special strategic initiatives and a customer retention program.

- Time Warner -

During 1995, Time Warner (TW) completed four acquisitions. TW's revenue, cash flow, and average subscribers were all adjusted as though these acquisitions had taken place at the beginning of the year. On April 1, 1995, TW entered into a partnership with Advance/Newhouse which had 1.5 million subscribers at the time of the deal. This added \$137 million to TW's 1995 revenue and \$46 million to its 1995 cash flow. On May 2, 1995, TW acquired Summit Communications which had 165,000 subscribers at the end of 1994. This added \$22 million to TW's 1995 revenue and \$11 million to its cash flow. On July 6, 1995, TW acquired KBLCOM, a subsidiary of Houston Industries Inc., which had 690,000 subscribers at the end of 1994. This added \$139 million to TW's 1995 revenue and \$72 million to its cash flow. On July 6, 1995, TW acquired from Houston Industries the half of Paragon Communications which TW did not already own, which had 967,000 subscribers at the end of 1994. This added \$179 million to TW's 1995 revenue and \$45 million to its cash flow.

- Continental -

On October 5, 1995, Continental acquired the cable holdings of the Providence Journal Company. In addition, Continental made several other smaller acquisitions during the year (Cablevision of Chicago, Columbia Cable of Michigan, Consolidated Cablevision of California, and N-COM). Continental's data have been adjusted as though these transactions took place at the beginning of the year. This increased Continental's revenue by \$289.919 million (\$221.998 million for Providence and \$67.921 million for the other acquisitions) and its cash flow by \$104.421 million (\$79.107 million for Providence and \$25.314 million for the other acquisitions.) Continental's average subscribership was calculated assuming that these acquisitions had occurred at the beginning of the year. This increased Continental's 1994 year-end subscriber number by 1,000,265 (771,000 for Providence and 229,265 for the other acquisitions.)

When Continental reports its basic subscribership, it includes, on an equity basis, subscribers from its partially owned affiliates. Those subscribers were removed from the 1995 year-end subscriber number (123,364). Therefore, the 1994 average subscribers number has been adjusted as well.

Continental's revenue and cash flow were adjusted for the removal of its satellite operations. This reduced its revenue by \$37.048 million and its cash flow by \$4.3 million.